Drought Status for January 2006

National Weather Service, Albuquerque, NM

...Drought over New Mexico has worsened over the past few months and conditions are not expected to improve in the near future…

Discussion: After the relatively-wet period in 2004 that extended into the spring of 2005, wet periods became fewer and of shorter duration from late spring 2005 through the early autumn. Even though statewide precipitation averaged near normal (103 %) for the calendar year, New Mexico has been exceptionally dry since the first half of October. Water year (since Oct 1, 2005) precipitation has averaged only 55 percent of normal. This is creating a fairly complex drought scenario with a mixture of long-term drought (up to seven years) blended with short-term (2-6 months) drought.

November was the 9th driest of the past 111 years in New Mexico, and preliminary numbers suggest December will also go into the record books as one of the 10 driest December months of the past 111 years. When considered together, the November-December period was one of the driest 5 such periods of the past 111 years. Precipitation for this time period has averaged a mere 11 percent of normal for the state.

By early January 2006, the snow pack was far less than 50 percent of normal nearly statewide. In general, the snow pack ranged from near 40 percent of normal in the Upper Rio Chama Basin to less than 10 percent of normal over most of the state. In the Sacramento Mountains of the south, the snow pack is virtually nonexistent on Sierra Blanca Peak, while a normal early January snow pack would produce a water-equivalent value of 7 inches. For the most part, the snow pack in New Mexico resembles previous years in which significant fires developed in the following spring and summer.

Worst long-term conditions are in three main regions: (a) Over western New Mexico, near the border with Arizona. Within this area, the greatest long-term precipitation deficits (percentage-wise) are from Zuni to Grants. (b) The Northern Mountains from Las Vegas to Santa Fe, Jemez Springs, and Los Alamos, and (c) The Capitan and Northern Sacramento Mountains from around Ruidoso to Capitan. Meanwhile, short-term drought or dryness has developed over the entire state.

The following table shows some of the two-month (November through December 2005) and six-month (July-December 2005) precipitation for some locations in New Mexico, compared to normal, and the percent of normal.

Location	Nov-Dec 2005	Normal Nov-Dec	Percent of Normal	Jul-Dec 2005	Normal Jul-Dec	Percent of Normal
Alamogordo	0.00	1.36	00	5.86	8.14	72
Albuquerque Airport	0.10	0.93	11	5.48	5.60	98
Albuquerque Valley	0.12	1.13	11	4.95	6.11	81
Albuquerque Foothills	0.31	1.67	19	6.05	9.32	65
Alto/Ruidoso	0.23	2.47	09	12.06	14.73	82
Animas	0.03	1.49	02	5.58	8.35	67
Capulin/Des Moines	0.43	1.15	37	7.66	10.32	74
Carlsbad	0.00	1.01	00	4.26	7.91	54
Chama	0.74	3.13	24	10.85	11.81	92
Clayton	0.13	0.86	15	6.52	8.60	76
Cloudcroft	0.47	2.63	18	14.34	16.99	84
Deming	0.06	1.15	05	4.42	6.94	64
Farmington	0.16	1.29	12	3.92	5.38	73

Fence Lake	0.55	1.93	28	7.39	9.50	78
Ft. Sumner	0.01	1.20	01	8.01	9.26	87
Gallup	0.19	1.73	11	4.65	7.38	63
Gila Hot Springs	0.06	2.40	03	5.25	11.97	44
Grants	0.14	1.22	11	4.01	7.51	53
Jemez Springs	0.23	1.88	12	7.23	10.96	66
Las Vegas	0.00	1.11	00	9.08	12.64	72
Los Alamos	0.08	1.73	05	12.02	11.95	101
Raton	0.21	0.68	31	9.23	10.15	91
Red River	1.06	2.33	45	10.98	11.63	94
Roswell	0.01	1.10	01	6.87	8.18	84
Santa Fe	0.28	1.54	18	6.40	8.58	75
Socorro	0.00	1.00	00	4.66	6.67	70
Tatum	0.00	1.04	00	5.81	9.85	59
Truth or Consequences	0.00	2.00	00	5.57	9.19	61
Tucumcari	0.05	1.23	04	12.28	9.37	131
Zuni	0.31	1.63	19	2.82	8.17	35

The following table shows the November through December 2005 average precipitation by region of the state (climate division) compared to normal, along with the percent of normal. A map showing the New Mexico climate divisions is below the table.

Location	**Nov-Dec 2005**	**Normal**	**Percent of Normal**
Northwest Plateau (1)	0.30	1.50	20
Northern Mountains (2)	0.29	1.55	19
Northeast Highlands (3)	0.10	0.95	11
Southwest Mountains (4)	0.16	1.35	12
Central Valleys (5)	0.09	0.95	09
Central Highlands (6)	0.16	1.75	09
Southeast Plains (7)	0.01	1.01	01
Southern Desert (8)	0.09	1.33	07

Climate Divisions in New Mexico

The following table shows the state of the high level snow pack at the end of the first week of January, 2006 for the main river basins in New Mexico and southern Colorado that impact New Mexico. These data

are from the SNOTEL instrument platforms operated by the Natural Resource Conservation Service (NRCS).

River Basin	Snow Water Equivalent Jan 2006	Average for early Jan	Percent of Normal
Rio Chama	2.7	7.1	38
Upper Rio Grande	3.2	9.1	35
San Juan	3.7	11.9	31
Animas	6.0	9.8	25
Cimarron	0.9	3.6	25
Sangre de Cristo	1.1	4.8	23
Zuni/Bluewater	0.4	2.6	15
Jemez	0.5	4.8	10
Pecos	0.6	6.9	09
Gila	0.2	3.5	06
San Francisco	0.1	2.8	04
Mimbres	0.1	2.5	04
Rio Hondo	0.0	7.0	0

One of the measures to determine the status of the long-term drought is to look at the percentiles for longer times scale. In general, percentiles provide a good measure of how rare conditions are. Percentiles greater than 50 indicate the area has been wetter than average. Drought is associated with the lower percentiles. Percentiles less than the 11th are usually associated with "Emergency" designations in New Mexico. Percentiles from 11th to 20th are consistent with drought "warning" designations. The 21st to 30th percentiles are associated with drought "alerts," and the 31st to 40th percentiles are consistent with "heads up" advisories. Presently, the worst long-term drought situation is indicated by the percentiles in the 36 to 72 month range.

The following table shows the 36, 48, 60 and 72 month period percentiles for some communities in New Mexico in regions where some long-term drought is evident. Values at or below the 20th percentile are shown in **bold figures**. The long-term drought is especially significant in those regions where percentiles are in the teens and single digits.

Location	36 Month Percentile	48 Month Percentile	60 Month Percentile	72 Month Percentile
Animas	38	33	32	40
Capitan	22	20	**12**	22
Fence Lake	37	40	35	35
Gallup	30	30	30	30
Gila Hot Springs	30	25	30	25
Grants	**18**	20	**16**	20
Jemez Springs	**04**	**02**	**02**	**05**
Las Vegas	**19**	**07**	**02**	**06**
Los Alamos	30	**10**	**07**	**07**
Roswell	31	39	35	38
Ruidoso	22	**18**	20	21
Santa Fe	**10**	**07**	**07**	**10**
T or C	35	22	**15**	**16**
Zuni	**02**	**06**	**07**	**08**

Rangeland/Pasture conditions: Current rangeland and pasture conditions will be available from USDA again in the spring. During the assessment in early November, 27 percent of the range and pasture land was considered to be in poor or very poor condition. This shows some deterioration since May, when 16 percent of the range/pasture land was judged to be poor or very poor. Also, in early November, 28 percent of the range/pasture land was determined to be in good or excellent condition, which is down from 60 percent in early May.

Fire Danger Impacts: The wet period in 2004 and early 2005 allowed abundant grass growth over eastern New Mexico. With the recent exceptionally-dry weather, these "fine fuels" are presenting high fire danger, much higher than normal for this time of year. Unless unforeseen significant precipitation develops, the fire season in 2006 is likely to be extended and severe in New Mexico, beginning in the lower elevations this month and progressing to higher elevations in the spring to early summer.

Hydrologic Impacts: New Mexico reservoir storage is substantially better than last year at this time over most of the state. Some of the systems in the north and east have reached levels above the long-term normal. This would include Abiquiu, El Vado, Costilla and Navajo in the north, and Santa Rosa in the east. Meanwhile, even though the volume of water in Elephant Butte Reservoir has doubled over the past year, storage remains only 34 percent of normal.

In the north, the January snow pack is generally less than it has been at any time since 1996. Over the south, the January snow pack is lower than it has been since 1981 or 1982. Consequently, the prospect for a satisfactory spring snow melt runoff looks bleak at this time, and, in general, reservoir storage is likely to exhibit a downward trend in 2006.

Long-range outlook:
Significant cooling of the sea surface over the equatorial Pacific since early autumn has produced a precipitation pattern over much of the West this winter similar to what is seen during a La Niña event. With the present pattern, there is a significant likelihood the overall winter precipitation will be below normal. There is probably even a greater likelihood the spring will be dry, especially over southern New Mexico. The most likely scenario is for continued drier than normal, and warmer than normal weather in New Mexico through the spring. Greatest chances for this scenario are probably over the southern half of the state.

Calendar Year 2005 and Water Year 2006 (Oct thru Dec) Precipitation for New Mexico

National Weather Service Albuquerque, NM

	2005 (Jan - Dec)			Water Year 2006 (Oct 05 through Dec 05)			
Location	**Obs**	**Normal**	**%Normal**	**Obs**	**Normal**	**% Normal**	**SID**
Northwest Plateau							
AZTEC RUINS N/M	11.86	9.90	120%	2.61	2.61	100%	AZT
FENCE LAKE	14.89	14.25	104%	0.91	3.25	28%	FCK
FARMINGTON AG CTR	8.69	8.67	100%	1.08	2.22	49%	FAR
GALLUP FAA APRT	9.52	11.59	82%	0.44	2.78	16%	GUP
LINDRITH 2SE	18.10	14.36	126%	2.47	3.21	77%	LDR
NAVAJO DAM	15.95	13.41	119%	3.31	3.60	92%	BLN
Northern Mountains							
ALCALDE	12.68	10.03	126%	0.98	2.10	47%	ALC
CANJILON R/S	16.77	15.43	109%	2.55	3.17	80%	CJL
CERRO	15.01	12.87	117%	2.85	2.48	115%	CRR
CHAMA	25.88	21.00	123%	3.37	4.84	70%	CHM
CIMARRON 4SW	18.13	16.17	112%	1.10	2.16	51%	CPS
GHOST RANCH	11.63	11.56	101%	1.74	2.17	80%	AIQ
JEMEZ SPRINGS	15.97	17.29	92%	0.86	3.46	25%	JEM
JOHNSON RANCH	9.96	11.33	88%	0.66	2.40	28%	CUB
LAS VEGAS FAA APRT	13.99	16.68	84%	0.82	2.32	35%	LVS
LOS ALAMOS	21.30	18.33	116%	1.19	3.24	37%	LOA
RATON FILTER PLT	20.33	17.66	115%	1.54	2.39	64%	RRT
RED RIVER	25.01	20.53	122%	3.81	3.83	99%	RED
SANTA FE 2	13.86	13.70	101%	1.63	2.74	59%	STF
WOLF CANYON	20.56	22.93	90%	1.76	4.97	35%	CUA

Northeastern Plains							
CLAYTON APRT	15.46	15.50	100%	0.57	1.96	29%	CAO
CLOVIS	17.00	17.89	95%	1.59	2.90	55%	CLV
CONCHAS DAM	19.30	14.10	137%	0.37	2.04	18%	CNC
MOSQUERO 1NE	19.82	16.53	120%	0.68	2.15	32%	MSQ
PORTALES	13.27	16.74	79%	1.39	2.54	55%	POR
TUCUMCARI 4NE	20.71	15.95	130%	0.56	2.48	23%	TUC
Southwestern Mountains							
FORT BAYARD	17.40	15.73	111%	2.11	3.09	68%	FTB
GILA HOT SPRINGS	12.81	16.34	78%	2.16	3.97	54%	GHS
GRANTS APRT	7.27	10.60	69%	0.59	2.36	25%	GNT
QUEMADO ESTATES	16.27	14.06	116%	1.13	2.65	43%	QME
RESERVE R/S	13.99	15.77	89%	1.06	4.12	26%	RES
Central Valley							
ABQ WSFO APRT	11.42	8.69	131%	1.13	1.83	62%	ABQ
BOSQUE DEL APACHE	11.33	8.68	131%	1.50	1.90	79%	SAA
LOS LUNAS 3SSW	8.42	9.02	93%	1.22	2.07	59%	LLU
SOCORRO	9.09	9.60	95%	1.04	2.01	52%	SCR
Central Highlands							
CAPITAN	16.83	16.14	104%	2.13	2.23	96%	CAP
CLOUDCROFT	26.04	24.96	104%	2.20	4.25	52%	CLD
ESTANCIA 4N	13.01	12.61	103%	1.50	2.42	62%	EST
MOUNTAINAIR R/S	15.58	14.27	109%	1.35	2.75	49%	MTN
RUIDOSO 2NNE	20.99	21.85	96%	3.16	4.02	79%	RUP
Southeastern Plains							
ARTESIA 6S	8.92	11.78	76%	0.83	2.10	40%	ART
CARLSBAD	8.84	12.46	71%	1.03	2.35	44%	CWP
FORT SUMNER	16.38	14.46	113%	0.84	2.55	33%	FSM
ROSWELL CLIMAT	11.01	12.93	85%	1.29	2.29	56%	ROW
SANTA ROSA	16.77	14.17	118%	0.52	2.28	23%	SNR
TATUM	11.97	15.94	75%	1.60	2.54	63%	TAT
Southern Desert							
ANIMAS	10.83	10.92	99%	1.93	2.46	78%	ANM
DEMING	8.21	9.20	89%	1.09	1.92	57%	DEM
FAYWOOD	11.66	11.89	98%	1.45	2.75	53%	FAY
STATE U LAS CRUCES	10.86	9.34	116%	1.57	2.09	75%	STC
TRUTH OR CONSEQ	9.07	12.08	75%	1.32	3.32	40%	TRC
TULAROSA	9.58	9.81	98%	1.23	2.07	59%	TLR

	2005 (Jan - Dec)	**Water Year 2006 (Oct 05 through Dec 05)**
Climate Division	**% Nrml**	**% Nrml**
Northwest Plateau	109%	61%
Northern Mountains	107%	59%
Northeastern Plains	109%	37%
Southwestern Mountains	93%	44%
Central Valley	112%	63%
Central Highlands	103%	66%
Southeastern Plains	90%	43%
Southern Desert	95%	59%
All Divisions	**103%**	**55%**